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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,674	03/21/2002	Masao Akiyoshi	401612	4820

23548 7590 03/28/2003

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EXAMINER

MAYO III, WILLIAM H

ART UNIT	PAPER NUMBER
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2831

DATE MAILED: 03/28/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/088,674

Applicant(s)

AKIYOSHI ET AL.

Examiner

William H. Mayo III

Art Unit

2831

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other:

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed May 31, 2002 has been submitted for consideration by the Office. It has been placed in the application file and the information referred to therein has been considered.

Drawings

2. The drawings are objected to because Figure 1 lacks the proper cross hatching which indicates the type of materials which may be in an invention. Specifically, the cross hatching to indicate the conductor and insulation materials is incorrect. The applicant should refer to MPEP Section 608.02 for the proper cross hatching of materials.

3. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect may be deferred until after the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

Correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2831

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimojima et al (Pat Num 6,362,447, herein referred to as Shimojima) in view of Hitachi Cable (1999-JP-0056118). Shimojima discloses an electrode for wire (Figs 1-2) electrical discharge machining (abstract). Specifically, with respect to claim 1, Shimojima discloses an electrode for wire (3) comprising an electrically conductive core (1), a first coating of Cu-Zn intermetallic compound in other than an alpha phase surrounding the core (1, Col 2, lines 43-46). With respect to claim 2, Shimojima discloses an electrode for wire (3) has a first coating comprising Cu-Zn alloy in a beta phase (Col 2, lines 43-46). With respect to claims 3-4, Shimojima disclose the core wire (1) comprises Cu-Zr alloy (Col 2, lines 43-46). With respect to claims 5-6, Shimojima disclose the core wire (1) comprises Cu-Zn alloy (Col 6, lines 30-35).

However, Shimojima doesn't necessarily disclose the wire having a second layer in an alpha phase wherein the second coating layer has a thickness of 5-15 μ (claim 1).

Hitachi Cable teaches an electrode wire (Figs 1-2) with an alpha phase wherein the alpha phase guarantees favorable cooling workability and eliminates the need for hot extrusion (see abstract and advantage). Specifically, with respect to claim 1, Hitachi Cable teaches an electrode wire (1) having a dual layer (3 & 4), wherein one of the layers (3) has an alpha phase, wherein the thickness of the second coating layer (4) is 0.25mm (Col 4, paragraph 17).

With respect to claim 1, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the wire electrode of Shimojima to comprise the additional layer configuration as taught by Hitachi Cable because Hitachi Cable teaches that such a configuration provides an electrode wire (Figs 1-2) with an alpha phase wherein the alpha phase guarantees favorable cooling workability and eliminates the need for hot extrusion (see abstract and advantage).

With respect to claim 1, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the metallic wire of modified Shimojima to comprise the second layer having a thickness of 5-15 μ m, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Art Unit: 2831

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are Suzuki et al (Pat Num 6,534,717), Groos et al (Pat Num 4,935,594), McGregor et al (Pat Num 6,403,890), Briffod (Pat Num 5,858,136), all of which disclose electrode wires.

Communication

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (703) 306-9061. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (703) 308-3682. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Application/Control Number: 10/088,674

Page 6

Art Unit: 2831

WHM: [Signature]

August 10, 2003